Attachment 2

Background and History of the Northern Colorado Water Conservancy District and the Colorado-Big Thompson Project

Background

Colorado presents unique challenges in regard to its available water resources and the demand for those water resources. Approximately 80 percent of the naturally occurring water supplies within Colorado fall on the western slope of Colorado, west of the Continental Divide. However, approximately 80 percent of the state's population and irrigable farmland are on the eastern slope of Colorado, east of the Continental Divide. Thus, Colorado faces a unique challenge of trying to match available water resources to existing and future rapidly growing water demands.

Because of the water short nature of the water supply within the South Platte River basin, water users within the basin began to investigate the possibility of conveying water from the headwaters of the Colorado River and the North Platte River Basin into the South Platte River Basin as early as 1890. In fact, the first effort for such a transbasin diversion began in 1895 with the construction of the Skyline Ditch and diversion of water from the Laramie River, a tributary to the North Platte River, into the Cache la Poudre River Basin, the largest tributary to the South Platte River. The following year, construction of the Grand River Ditch began, diverting water from the headwaters of the Colorado River again into a tributary of the Cache la Poudre River.

Development of Colorado-Big Thompson Project

In 1933, Northeastern Colorado was suffering from an extended drought, prompting water users to form an entity called the Northern Colorado Water Users Association to renew and intensify the efforts to find additional supplemental water supplies. Again, the attention focused on the headwaters of the Colorado River and the "Grand Lake Project," a project concept developed by visionaries in previous decades. This concept included diverting water from the headwaters of the Colorado River at Grand Lake, the largest natural lake in Colorado, taking the water beneath the Continental Divide, into the drainage basin of either the Big Thompson River or St. Vrain Creek on the eastern slope. The efforts were expanded to include discussions with several federal agencies, including the United States Bureau of Reclamation (Reclamation). Over the next four years, the concept of the Grand Lake Project transformed into the development of plans by Reclamation for the Colorado-Big Thompson Project (C-BT Project). In 1937, the engineering report which summarized the design and operation of the proposed C-BT Project prepared by Reclamation was presented to Congress. This document, known as Senate Document 80, lives on today as portions of this document continue to govern the operation of the C-BT Project.

Creation of the Northern Colorado Water Conservancy District

In May, 1937, the Colorado State Legislature passed legislation providing for the creation of water conservancy districts. The Northern Colorado Water Conservancy District (Northern Water) was the first conservancy district created in Colorado under this statute, being created in

September, 1937, by decree of the Weld County District Court. On July 5, 1938, Northern Water and Reclamation entered into a contract containing the terms and conditions that defined the contractual relationship between Northern Water and Reclamation for the design, construction, operation, maintenance, and administration of the C-BT Project.

Colorado-Big Thompson Project Configuration and Operation

The C-BT Project's collection system on the western slope of Colorado, including Lake Granby, Shadow Mountain, and Willow Creek reservoirs and Grand Lake, captures, stores, and diverts water from the headwaters of the Colorado River, diverting that water through the 13.1 mile long Alva B. Adams Tunnel beneath the Continental Divide, to Colorado's eastern slope. After flowing through the project's power plants and generating power, the water is then conveyed into the C-BT Project's distribution system comprised of Horsetooth Reservoir, Carter Lake Reservoir and a total of 92 miles of distribution canals. The water is then made available to project beneficiaries for irrigation, municipal, domestic, and industrial uses within the boundaries of Northern Water. The C-BT Project's supplementary water supply complements the already-existing developed water supplies within the area included within the boundaries of Northern Water.

The C-BT Project as originally designed was envisioned to deliver a net average annual yield to project beneficiaries of approximately 310,000 acre feet of water. This estimate of average annual yield was based on very optimistic hydrology. Time and experience has shown that the actual yield of the project is approximately 220,000 acre feet of water per year as diverted at the headwaters of the Colorado River. The C-BT Project remains the largest single transmountain diversion in the State of Colorado.

A unique feature of the C-BT Project is Green Mountain Reservoir located on the Blue River, a tributary to the Colorado River. Green Mountain Reservoir was built both to enhance the function of the Collection System of the C-BT Project and to provide mitigation to the western slope for the impacts the diversion of water from the headwaters of the Colorado River by the C-BT Project would have on existing and future water users within the Colorado River basin in Colorado. Green Mountain Reservoir, an integral part of the C-BT Project, has proven itself to be very valuable both to the eastern slope beneficiaries of the C-BT Project, and to water users on the mainstem of the Colorado River within Colorado. Since being put into operation in 1943, the operation of Green Mountain Reservoir and the beneficial use of the water it provides to the western slope has evolved to meet ever-changing and increasing water demands brought about by the growth in western Colorado.

The C-BT Project was designed, constructed, and is operated and maintained primarily as a water supply project. However, the C-BT Project was also authorized as a power generation project. The C-BT Project's six power plants provide needed project power for the C-BT Project's three pumping stations, as well as providing power marketed by the Department of Energy through the Western Area Power Administration. Operating principles of the project require that water moved through the project for water supply be done so primarily to meet the water demands placed on the project, but secondarily done in a manner that maximizes power generated by the C-BT Project. The effective and efficient operation of the C-BT Project's power

plants provide a reliable and flexible source of renewable energy, again a benefit from the C-BT Project that is essential to the area's great and growing economy.

As the area served by the C-BT Project has evolved and grown, the demands placed on the project have likewise changed. Construction on the project began in 1938, but final completion of this complex project did not occur until 1957 when the project went into full operation. At the time the project was placed into full operation, 85 percent of the water allocated from the C-BT Project by Northern Water was owned by agricultural interests, while 15 percent of the C-BT Project's water was owned by municipal, domestic, and industrial interests. The first year of operation resulted in approximately 95 percent of the water delivered by the C-BT Project being used for agricultural purposes, while 5 percent of the water delivered was used for municipal and industrial purposes. Over time, ownership of allotment contracts associated with the project has changed to reflect changing demands of the region. Currently, 64 percent of the water allocated from the project through allotment contracts is owned by municipal and industrial interests, while 36 percent of the water allocated remains in the ownership of agricultural interests. Usage of C-BT Project water over the last several years has averaged approximately 60% of the water delivered being used for agricultural purposes, while 40% of the water delivered is utilized for municipal and industrial use.

The changes in ownership of C-BT Project water allotment contracts can be attributed to Northern Water's free market system for the transfer of allotment contracts between entities on a willing-buyer/willing-seller basis with the approval of the Boards of Directors of Northern Water. The difference between ownership and actual water usage can be attributed to the robust rental market system incorporated by the Boards of Directors into the initial operation of the project, allowing water not needed by a particular allottee to be rented or leased to another water user within the Northern Water boundaries that is in need of supplemental water supplies.

Future Water Supply Challenges

Northern Water and its constituents face significant challenges in the management of available water resources. Northern Water has studied existing land use plans developed by the cities, towns, and counties within its boundaries along Colorado's northern front range within Larimer, Weld, and Boulder Counties. This study indicates that to supply the water needs indicated by those land use plans and the associated growth and development, another approximately 300,000 acre feet of water will be needed for municipal, domestic, and industrial purposes. This required future supply is significantly greater than the 220,000 acre foot average annual yield of the entire C-BT Project.
To meet only a portion of that need, the NCWCD is involved in the planning and development of a number of projects. The most notable of these include the Northern Integrated Supply Project (NISP) and the Windy Gap Firming Project. Both of these projects are now working their way through the National Environmental Policy Act (NEPA) compliance, with each having concluded the public review process of each project's respective draft Environmental Impact Statement (EIS).

The NISP project is a complex project that consists of a 180,000 acre foot reservoir and a 40,000 acre foot reservoir that are coupled with a complex array of water exchanges that will yield

approximately 40,000 acre feet of additional firm yield on an annual basis. The project cost is approximately $426 million. The Windy Gap Firming Project, as proposed, would consist of a 90,000 acre foot reservoir that would be used to store water diverted by the Windy Gap Project. The Windy Gap Project is owned and operated by the Municipal Subdistrict of the Northern Colorado Water Conservancy District. It is also a transmountain diversion project. The Windy Gap Project diverts water from the Colorado River downstream of the C-BT Project and utilizes the excess capacity in the C-BT Project to convey the Windy Gap Project water to the Windy Gap Project participants on the eastern slope. The cost of the Windy Gap Firming Project is estimated to be $250 million.

The benefits of these proposed new water projects can be maximized if these proposed projects are allowed to work in concert with the C-BT Project. The integration of these projects is imperative if the region is to meet its future water supply needs.